UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/647,883	08/25/2003	Marcin Wielgosz	14474.1US01	3562

23552 7590 05/15/2007
MERCHANT & GOULD PC
P.O. BOX 2903
MINNEAPOLIS, MN 55402-0903

EXAMINER	
VIANA DI PRISCO, GERMAN	
ART UNIT	**PAPER NUMBER**
2609	
MAIL DATE	**DELIVERY MODE**
05/15/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/647,883	WIELGOSZ ET AL.	
	Examiner	Art Unit	
	German Viana Di Prisco	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 August 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08/25/2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *08/25/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 08/25/2003 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budge et al. (United States Patent No.: US 6,219,359 B1) in view of Paik et al. (United States Patent No.: US 5,216,503).

Consider claim 1, Budge et al. clearly show and disclose a device for multiplexing of data (figure 3) comprising a first multiplexer 32 having first live signal inputs for signals transmitted live (column 7 lines 14-16), bitrate inputs for which appropriate bitrate needs to be maintained (figure 3 and column 3 lines 38-45) and/or first weight inputs with priorities defined by a weight coefficient (column 3 lines 54-57), a first output (output of multiplexer 32 on the left hand side of figure 3) and modules connected to said first inputs for receiving packet request commands which request reading of packets at said inputs and sending the packets to the first output wherein the multiplexer merges signals from said first inputs into a first single stream fed at the first output (figure 3 and column 4 lines 11-29).

Nonetheless Budge et al. do not specifically disclose that the multiplexer inputs are buffered.

In the same field of endeavor, Paik et al. clearly show and disclose a statistical multiplexer wherein the inputs are buffered (column 6 lines 22-29).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use buffered inputs as disclosed by Paik et al. in the transmitter of Budge et al. in order to simultaneously transmit a number of different signals, from different sources, via a single transmission medium.

Consider claim 2, and as applied to claim 1 above, Budge et al. as modified by Paik et al. disclose a statistical multiplexer that apportions the group bitrate to the individual inputs an is able to attach or associate a preference to a channel over the other channels in the group (column 3 lines 37-57).

Even though Budge et al. as modified by Paik et al. do not specifically disclose using a weight coefficient from 0 to n to define a rate at which data is read from each input, Budge et al. as modified by Paik et al. do teach the idea of giving priority to a channel over another, essentially assigning the higher priority channel a higher data rate.

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to assign a higher data rate to a channel with higher priority in order to maintain a high quality transmission for the high priority channel.

Consider claim 3, and as applied to claim 1 above, Budge et al. as modified by Paik et al. disclose a statistical multiplexer that apportions the group bitrate to the individual inputs an is able to attach or associate a preference to a channel over the other channels in the group, essentially assigning the higher priority channel a higher data rate (column 3 lines 37-57).

Consider claim 6, and as applied to claim 1, Budge et al. clearly show and disclose a device for multiplexing of data (figure 3) comprising a second multiplexer 32 having second live signal inputs for signals transmitted live (column 7 lines 14-16), bitrate inputs for which appropriate bitrate needs to be maintained (figure 3 and column 3 lines 38-45) and/or first weight inputs with priorities defined by a weight coefficient (column 3 lines 54-57), where one of said second multiplexer inputs is linked to the first output of the first multiplexer, a second output (output of multiplexer 32 on the right hand side of figure 3) and modules connected to said second multiplexer inputs for receiving packet request commands which request reading of packets at said second inputs and sending the packets to the second output wherein the second multiplexer merges signals from said second inputs into a second single stream fed at the second output (figure 3 and column 4 lines 11-29).

Nonetheless Budge et al. do not specifically disclose that the multiplexer inputs are buffered.

In the same field of endeavor, Paik et al. clearly show and disclose a statistical multiplexer wherein the inputs are buffered (column 6 lines 22-29).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use buffered inputs as disclosed by Paik et al. in the transmitter of Budge et al. in order to simultaneously transmit a number of different signals, from different sources, via a single transmission medium.

7. Claims 4- 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Budge et al. (United States Patent No.: US 6,219,359 B1) in view of Paik et al. (United States Patent No.: US 5,216,503), as applied to claim 1 above, and further in view of Wolff (United States Patent Application Publication No.: US 2004/0031056 A1).

Consider claim 4, and as applied to claim 1 above Budge et al. as modified by Paik et al. disclose the claimed invention but fail to specifically teach that the data packets corresponding to the live signal are sent immediately to the first output and wherein only data from the highest priority input is guaranteed to be sent without any delays.

In the same field of endeavor Wolff discloses a system for multimedia content delivery wherein video traffic, including live video, is considered delay sensitive and is therefore given the highest priority in order to deliver the corresponding packets within a guaranteed timeframe (paragraphs [0020] and [0027]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to give the highest priority to the live video signal and transmit the corresponding packets without delay as disclosed by Wolff in the transmitter of Budge et al. as modified by Paik et al. in order to address the delay sensitive nature of live video traffic.

Consider claim 5, and as applied to claim 1 above, Budge et al. as modified by Paik et al. disclose the claimed invention but fail to specifically teach that data

appearing at the first bitrate inputs is read with a specific bitrate defined by a number larger than 0.

In the same field of endeavor Wolff discloses a system for multimedia content delivery wherein voice traffic is considered rate sensitive and therefore requires a guaranteed transmission rate from its source to its destination (paragraph [0027]).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to transmit rate sensitive traffic at a particular rate as disclosed by Wolff et al. in the transmitter of Budge et al. as modified by Paik et al. in order to transmit rate sensitive traffic at a constant rate.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Budge et al. (United States Patent No.: US 6,219,359 B1) in view of Arimilli. (United States Patent No.: US 6,275,502 B1).

Consider claim 7, Budge et al. disclose a method for multiplexing a combination of one or more different type of signals such as video, audio and /or data, in a system for dataflow management using multiplexers comprising checking if any bitrate inputs are connected to the multiplexer; checking if a sum of bitrates of the bitrate inputs is smaller than a bitrate of a multiplexer output; initiating a procedure of checking for packets using bitrate when the bitrate inputs are found available and the sum of the bitrates of the bitrate inputs is smaller than the bitrate of the multiplexer output and sending found packets until all packets are sent and treating the bitrates of the bitrates

inputs as weight coefficients when the sum of the bitrates of the bitrates inputs is greater than the bitrate of the output and treating the bitrates inputs as weight inputs; initiating a procedure of searching for packets at the weight inputs when the weight inputs are found available and sending found packets until all packets are sent (Budge et al. disclose apportioning the bitrate of the multiplexer output among the multiplexer inputs in such a way as to meet the individual requirements of each input but ensuring that buffer overflow will not occur. Further Budge et al. disclose giving priority to a channel over another, essentially assigning the higher priority channel a higher data rate) (figure 3, column 3 line 38-column 4 line 38, and column 7 lines 14-16).

Even though Budge et al. disclose the concept of associating a preference or priority to a particular channel over the others, Budge et al. do not specifically disclose checking and reading packets from the live signal inputs (high priority inputs) and checking if a packet is available and sending information about packet unavailability when no packets are available.

In the same field of endeavor Arimilli shows and discloses checking and reading packets from the live signal inputs (high priority inputs) and checking if a packet is available and sending information about packet unavailability when no packets are available (figure 14 and column 3 lines 5-26).

Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to check and read packets from the live signal inputs (high priority inputs) and to check if a packet is available and sending information about packet unavailability when no packets are available as disclosed by Arimilli in the transmitter of Budge et al. in order to maximize data throughput efficiency and quality while simultaneously reducing multiplexer processing overhead.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stanger et al. (United Sates Patent No.: 6,084,910) disclose a statistical multiplexer for live video signals.

10. Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed to**:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

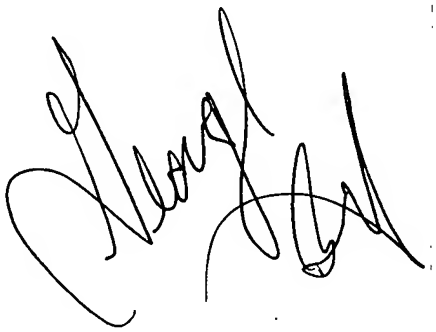
Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Viana Di Prisco whose telephone number is (571) 270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

German Viana Di Prisco
G.V.D.P/gvdp

May 10, 2007



RAFAEL PEREZ-GUTIERREZ
SUPERVISORY PATENT EXAMINER
5/14/07